



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/563,287

01/03/2006

Sung-Chul Sohn

4949-0010

4361

22429

7590

11/13/2009

LOWE HAUPTMAN HAM & BERNER, LLP  
1700 DIAGONAL ROAD  
SUITE 300  
ALEXANDRIA, VA 22314

EXAMINER

THIER, MICHAEL

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

11/13/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/563,287	<b>Applicant(s)</b> SOHN, SUNG-CHUL	
	<b>Examiner</b> MICHAEL T. THIER	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) 8-42 and 48-57 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7, 43 and 44 is/are rejected.
- 7) ☒ Claim(s) 5, 45, 46, 58 and 59 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 9/1/2009 have been fully considered but are moot in view of the new grounds of rejection.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 44, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Link, II et al. (US 7526278) in view of Wang (US 2004/0203857) in further view of Bhatia (US 6052591).

**Regarding claims 1 and 44.** Link teaches system and method for providing zone-based personalized information to a user of mobile communication terminal located in a specific zone among a plurality of zones (title, abstract, and figure 1A), which comprises:

a plurality zone management system each installed in one of the zones for acquiring a MIN (Mobile Identification Number) information of the mobile communication terminal entering the respective zone (figure 1A items 13b, one located in each zone 10a-10e, thus reading on a plurality of zone management systems each installed in one of the zones. Further see figure 6 item 60, and column 9 lines 25-30, i.e. the mobile

Art Unit: 2617

provides information to the cell control, the information contains the MIN and cell ID, thus the cell control acquires a MIN of the mobile terminal entering its zone.)

a zone information management server that receives the MIN information and zone identification information of the specific zone where the mobile communication terminal is located from the zone management system of said specific zone (figure 6 item 61 (which can further include items 62 and 63), further column 9 lines 26-27, i.e. the information (i.e. cell ID and MIN) is transmitted from the cell control (i.e. which reads on zone management system) to the MTSO (which reads on zone information management server since it receives the MIN and cell ID). The cell ID clearly reads on zone identification information of the specific zone where the mobile communication terminal is located) and retrieves transmission information to be transferred to the terminal according to the MIN information and the zone identification information. (column 9 lines 35-44, i.e. if there are advertisements to be transmitted to mobiles within that cell site ID, the appropriate information is retrieved and forwarded to the transmitter to be transmitted. Further the MIN database can be searched to determine if the information is to be sent, thus allowing for the information to be transferred to the terminal according to the MIN information and zone identification information (i.e. cell ID).)

Link further teaches the idea of transferring the transmission information and the MIN information to the base station of the cell where the terminal is located according to the location information. (column 9 lines 40-44, i.e. the message is generated to the appropriate cell control, to the designated mobile. Further seen in figure 1A the cell

Art Unit: 2617

control is connected to the BS, to allow the message to be transmitted to the designated mobile, and thus the information is transferred to the base station of the cell where the terminal is located according to the location information (i.e. the cell ID originally provided).

However, Link does not specifically disclose that the plurality of zones are within a cell serviced by a base station. (i.e. Link teaches the zones are all individual cells each serviced by their individual base station, rather than a single cell which is serviced by a single base station and broken down in to a plurality of zones.)

Wang teaches a system and method for allocating channels to a mobile terminal based on movement (i.e. location of the mobile) (title and abstract). He teaches in figure 1 and par. 35-36, the idea that a cell (14) that is controlled by a single base station (16) is divided into a plurality of smaller zones (18). He also discloses that the system would typically include a large number of cells each defined by separate base stations (i.e. such as the system of Link). Thus a typical system such as Link's can utilize the idea of breaking down each cell into a plurality of smaller zones controlled by a single base station.

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to utilize the teachings as in Wang with the teachings as in Link. The motivation for doing so would have been to allow for increasing the capacity of a cellular communications system (Wang par. 14).

However, Link does not specifically disclose requesting location registration of the terminal to the HLR and an SMS server that receives the transmission information

Art Unit: 2617

and the MIN information from the zone information management server, gets location information of the terminal corresponding to the MIN information from the HLR, and transfers the transmission information and the MIN information to the base station of the cell where the terminal is located according to the location information. The examiner would like to note that Link does disclose that the mobile can be forced to register when entering particular cell sites (or zones). Registering location information of a mobile terminal to the HLR is extremely well known in the wireless communications art, especially in the location based service and handover fields. One of ordinary skill in the art at the time of invention would have found this to be an obvious feature in order to allow the users home network to know where the mobile is located, especially for things such as billing. (i.e. different areas may require different ratings for use, and thus the HLR would need to know the location of the mobile for appropriate billing). For clarification purposes please see the following, where the examiner provides a reference disclosing this well known feature.

Bhatia teaches a system and method for broadcasting messages to mobile stations within a specific area (title and abstract). He teaches the idea of requesting location registration of the terminal to the HLR (column 3 lines 39-41, i.e. the GMSC performs an interrogation of the HLR to determine the location of the mobile, the HLR stores subscriber info and keeps track of the current location of the mobile station) and an SMS (Short Message Services) server (figure 5, SMS-GMSC 190) that receives the transmission information and the MIN information from the zone information management server (column 4 lines 47-56, i.e. the packet message of information is

Art Unit: 2617

transferred to the SMS-GMSC) gets location information of the terminal corresponding to the MIN information from the HLR (column 4 lines 56-61, the SMS-GMSC interrogates the HLR for information identifying where the mobile is currently located), and transfers the transmission information and the MIN information to the base station of the cell where the terminal is located according to the location information. (see figure 5 and column 4 line 62-column 5 line 6, i.e. the message is then routed to the MSC serving the mobile stations current location, the message is then encapsulated into an SMS (i.e. transformed into a burst message format) and delivered to the mobile station via the BSC)

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to utilize the teachings as in Bhatia with the teachings as in the combination of Wang and Link. The motivation for doing so would have been to allow for selectively broadcasting SMS messages to mobile stations in particular areas (Bhatia column 1 lines 64-67).

**Regarding claims 2 and 47.** Link further teaches wherein the zone management system wirelessly receives mobile terminal information that is transferred from a mobile terminal to a base station, and acquires MIN information from the received mobile terminal information. (figure 6, further column 5 lines 45-48, i.e. the data is received from the mobile by the cell control (i.e. zone management system) at the cell tower (i.e. BS) and 9 lines 25-27, i.e. the cell control receives information from the mobile containing cell site ID and MIN, in figure 6 it is seen that the cell control (or zone management system) is located between the BS and the MTSO, the data that is

Art Unit: 2617

received from the mobile by the BS goes to the cell control and on to the MTSO))

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Link in view of Wang and Bhatia as applied to claims 1-2 above, and further in view of Takaki et al. (US 2001/0014596.

**Regarding claim 3.** Link, Wang, and Bhatia teach the limitations of the previous claim. Link further teaches the zone management system has a control part and a communication part which transmits the MIN information and the zone identification information to the zone information management server under control of the control part. (column 9 lines 26-27, i.e. the information is transmitted via a cell control link..., thus the cell control clearly has a communication part under control of a control part in order to allow for transmitting the data.) He also teaches the idea of acquiring MIN information in column 9 lines 29-30, i.e. extracts the MIN.

However, they do not specifically disclose wherein the zone management system comprises: an antenna which wirelessly receives high frequency signal including mobile terminal information that is transmitted from the mobile terminal to the base station; a high frequency signal-processing part which converts the high frequency signals transmitted from the antenna into intermediate frequency signals; a base-band processing part which after converting the intermediate frequency signal received from the high frequency signal-processing part into digital signals, and demodulating, the digital signals, acquires the MIN information from the demodulated digital signals. The examiner would like to note that the features in this claim are well known and commonly



Art Unit: 2617

used in wireless transmission and reception units. For clarity purposes the following is provided.

Takaki teaches the idea of a radio unit (figure 1) comprising an antenna which receives high frequency signal including mobile terminal information that is transmitted from the mobile terminal to the base station (figure 1 item 101 and par. 5 explains the unit receives information from a mobile station); a high frequency signal-processing part which converts the high frequency signals transmitted from the antenna to intermediate frequency signals (par. 5); a base-band processing part (figure 1 item 109 and par. 5) which after converting the intermediate frequency signal received from the high frequency processing part to digital signals, and demodulating (par. 5, i.e. demodulates the received signal), acquires MIN information from the demodulated data (Takaki teaches that the received data is demodulated and Link teaches the idea that the received data contains the Min information, and thus the combination would allow for acquiring the MIN information).

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to utilize the teachings as in Takaki with the teachings as in the combination of Link, Wang, and Bhatia. The motivation for doing so would have been to utilize a well known receiver configuration to receive and demodulate a specific signal.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Link in view of Wang, Bhatia, and Takaki as applied to claim 3 above, and further in view of Menard et al. (US 6563910).

**Regarding claim 4.** Link, Wang, Bhatia, and Takaki teach the limitations of the previous claim.

However, they do not specifically disclose wherein the zone management system further comprises a fire detecting part which detects Outbreak of fire by sensing heat or smoke.

Menard teaches an emergency response information distribution method and system (title and abstract). He teaches the idea of smoke and fire detectors in a wireless communication environment in figure 5 and column 6 lines 62-65 and column 13 lines 24-34.

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to utilize the teachings as in Menard with the teachings as in the combination of Link, Wang, Bhatia, and Takaki. The motivation for doing so would have been to allow for communicating emergency situations and improving response times. (Menard column 1 lines 6-9 and column 3 lines 45-47).

6. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Link in view of Wang and Bhatia as applied to claim 1 above, and further in view of Viikari et al. (US 2004/0092271).

**Regarding claim 6.** Link, Wang, and Bhatia teach the limitations of the previous claim. Link teaches wherein the zone management system receives mobile terminal information transmitted from the mobile terminal to a base station, acquires a MIN from the received mobile terminal information, and transmits the MIN and zone identification

Art Unit: 2617

information to the zone information management server. (as explained in the rejection of claim 1).

However, as shown above, Link teaches acquiring and transmitting a MIN and not a MAC address of the mobile terminal.

Viikari teaches a method and system for location based services (title and abstract). He teaches the idea of receiving mobile terminal information transmitted from a mobile terminal to a base station and acquiring a MAC address from the received information in par. 92. Utilizing this MAC address in place of the MIN as in Link would allow for the limitations in the claims to clearly be seen.

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to utilize the teachings as in Viikari with the teachings as in Link, Wang, and Bhatia. The motivation for doing so would have been

**Regarding claim 7.** The combination of Link, Wang, Bhatia, and Viikari teaches wherein the zone information management server searches a MIN information database (Link column 9 lines 40-42) by use of the MAC address that is transmitted from the zone management system (Link teaches using a MIN for the mobile terminal, however, Viikari teaches utilizing a MAC address of the mobile in par. 92), searches the MIN information matched to the MAC address (Link teaches that the system checks the list of MIN, for a specific MIN, however, in combination with Viikari teaching utilizing the MAC of the mobile would allow for searching the MIN database for the MIN that corresponds to the MAC), requests the location registration of the mobile terminal to the HLR (Bhatia (column 3 lines 39-41, i.e. the GMSC performs an interrogation of the HLR to determine

Art Unit: 2617

the location of the mobile, the HLR stores subscriber info and keeps track of the current location of the mobile station), searches transmission information to be transmitted to the mobile terminal by use of the MAC address and the zone identification information (Link column 9 lines 31-44, Link teaches using the MIN and zone identification information (cell id), however, utilizing the MAC address as in Viikari would allow for this limitations to be seen), and transmits the transmission information and the MIN information to the SMS server (column 9 lines 44-45).

7. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Link in view of Wang, and Bhatia as applied to claim 1 above, and further in view of Nichani (US 6678394).

**Regarding claim 43.** Link, Wang, and Bhatia teach the limitations of claim 1.

However, they do not specifically disclose wherein each of the zones supervised by the zone management systems, respectively, is 2 to 50m in radius. (i.e. Wang does not specifically recite the possible sizing of the zones)

Nichani teaches a method and system for detecting obstacles within a given area (title and abstract). He teaches the idea that a zone with a 50m radius is scanned (i.e. supervised) and can also be divided into even smaller zones (i.e. 2m) in column 2 lines 18-21.

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to utilize the teachings as in Nichani with the teachings as in Link, Wang, and Bhatia. The motivation for doing so would have been for smaller zones

Art Unit: 2617

allowing for early evasive action. (Nichani column 2 lines 20-21)

***Allowable Subject Matter***

8. Claims 5, 45, 46, 58, and 59 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the

Art Unit: 2617

examiner should be directed to MICHAEL T. THIER whose telephone number is (571)272-2832. The examiner can normally be reached on Monday thru Friday 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL T THIER/  
Examiner, Art Unit 2617  
10/29/2009

/Patrick N. Edouard/  
Supervisory Patent Examiner, Art Unit 2617